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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,601	05/17/2006	Hans Boffo	GRIMM 236-KFM	4759
10037	7590	11/03/2008	EXAMINER	
MILDE & HOFFBERG, LLP			HAGEMAN, MARK	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,601	Applicant(s) BOFFO ET AL.	
	Examiner Mark Hageman	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: there are no headings in the specification; examiner requests the addition of appropriate headings (see below) where applicable to clarify the specification.

Appropriate correction is required.

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of

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the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

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There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Claim Objections

- 2. Claims 1 and 27 are objected to for failing to comply with 37 C.F.R. 1.75(i) which sets forth, "where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a lined indentation.

Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 4. Claims 1, 3-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,561,545 to Carlow in view of US 6,311,919 to Hermanns et al. and US 5,621,591

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to Rahimi et al. and what is well known in the art. Carlow discloses a device for sorting different materials, comprising a conveyor belt (rc) and at least one sensor (cl and ct) which is assigned to the conveyor belt and senses pieces of material in a location-dependent manner on the conveyor belt, and at least one actuator (rsa) which sorts out pieces of material in accordance with signals of the at least one sensor in a location-dependent manner (c9 lines 42+), the improvement comprising at least one electromagnetic actuator (rsa) Carlow does not show the electromagnetic actuator having at least one energizable coil rotatably suspended about a shaft, said coil, starting from a basic position, performing a rotational movement about the shaft in a gap between a pair of first oppositely magnetized permanent magnets to a second position in a gap between a pair of second oppositely magnetized permanent magnets, a magnetic field in the gap of the second permanent magnets extending opposite in direction to a magnetic field in the gap of the first permanent magnets, the rotational movement of the coil effecting an actuating operation for sorting out a piece of material.

5. Hermanns shows an actuator as discussed and described in claim 1 (see figures 1-6) offering the advantages of simplified triggering and control (c3 lines 53+) and generating a high moment (c3 lines 60+). Rahimi also shows an actuator as discussed and described in claim 1 (see figures 7-9) for the purpose of quick and accurate movement with low power consumption (c1 lines 27+).

6. It would have been obvious to one of ordinary skill in the art at the time of the applicants' invention to have modified Carlow to include the type of actuator taught by both Hermanns and Rahimi, and well known in the art, to achieve the advantages

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discussed above. Furthermore the actuators are being used in a predictable manner to provide actuation. The substitution of one actuator for another for the predictable result of actuation would have been obvious to one of ordinary skill in the art.

7. Regarding claims 5-22 examiner notes that the limitations of these claims appear to recite what is well known and conventional regarding such electro-magnetic actuators. Both Hermanns and Rahimi disclose many of these features and indicate the level of ordinary skill in the art.

Re claim 3 Carlow discloses the at least one electromagnetic actuator is driven in a location-dependent manner so as to pivot an ejector connected to the actuator into the-transport path of a respective sensed piece of material for sorting out the piece of material (c9 lines 42+).

Re claim 4 at least one electromagnetic actuator is arranged at the end of the conveyor belt at an outlet side, and wherein the ejector is pivotable into the transport path of the respective sensed piece of material (c9 lines 42+ and figure 2).

Re claims 23-25 see figure 2 and c9 lines 42+.

8. Claims 1, 2, 5-22, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,167,141 to Carrara in view of US 6,311,919 to Hermanns et al. and US 5,621,591 to Rahimi et al. and what is well known in the art. Carrara discloses a device for sorting different materials, comprising a conveyor belt (14) and at least one

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sensor (1) which is assigned to the conveyor belt and senses pieces of material in a location-dependent manner on the conveyor belt, and at least one actuator (42) which sorts out pieces of material in accordance with signals of the at least one sensor in a location-dependent manner (c4 lines 5+), the improvement comprising at least one electromagnetic actuator (42) Carrara does not show the electromagnetic actuator having at least one energizable coil rotatably suspended about a shaft, said coil, starting from a basic position, performing a rotational movement about the shaft in a gap between a pair of first oppositely magnetized permanent magnets to a second position in a gap between a pair of second oppositely magnetized permanent magnets, a magnetic field in the gap of the second permanent magnets extending opposite in direction to a magnetic field in the gap of the first permanent magnets, the rotational movement of the coil effecting an actuating operation for sorting out a piece of material.

9. Hermanns shows an actuator as discussed and described in claim 1 (see figures 1-6) offering the advantages of simplified triggering and control (c3 lines 53+) and generating a high moment (c3 lines 60+). Rahimi also shows an actuator as discussed and described in claim 1 (see figures 7-9) for the purpose of quick and accurate movement with low power consumption (c1 lines 27+).

10. It would have been obvious to one of ordinary skill in the art at the time of the applicants' invention to have modified Carrara to include the type of actuator taught by both Hermanns and Rahimi, and well known in the art, to achieve the advantages discussed above. Furthermore the actuators are being used in a predictable manner to

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provide actuation. The substitution of one actuator for another for the predictable result of actuation would have been obvious to one of ordinary skill in the art.

11. Regarding claims 5-22 examiner notes that the limitations of these claims appear to recite what is well known and conventional regarding such electro-magnetic actuators. Both Hermanns and Rahimi disclose many of these features and indicate the level of ordinary skill in the art.

Re claim 2 Carrara discloses the at least one electromagnetic actuator is arranged at a side of the conveyor belt (figure 1).

Re claim 27 Carrara further discloses the parts are made of metal (c1 lines 5+). The other limitations of the claim are apparent in the functioning of the combination proposed relative to claim 1.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Hageman whose telephone number is (571) 272-3027. The examiner can normally be reached on M-F 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick H. Mackey/
Supervisory Patent Examiner, Art
Unit 3653

MCH